

BP-16 Rates Workshop

Power Rates
September 9, 2014



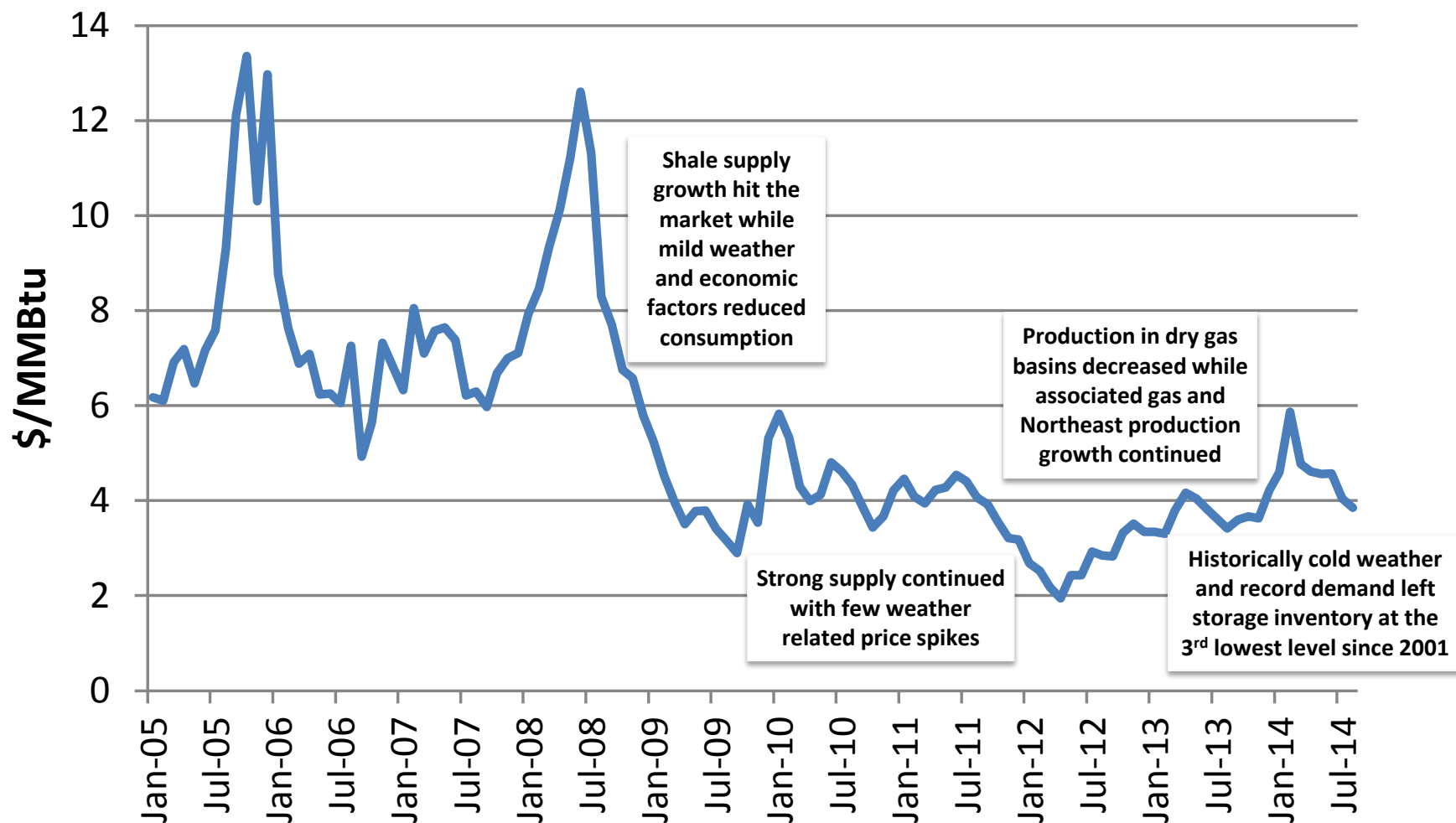
Agenda

Topic	Presenter
Diurnal Flattening Service Transmission Scheduling Service Load and Resource Services for New Large Single Loads * Please see separate document	Daniel Fisher Annamarie Weekley
Market Price Update	Peter Williams Gail Hammer
GTA Delivery Charge	Dan Yokota

Market Price Update

Market Price Update

Henry Hub Price History



Natural Gas Market Continues to Evolve

Supply

- US production is expected to continue growing by more than 7 Bcf/d by 2018
- Supply growth will be dominated by lower cost resources including Marcellus and Utica, wet shale, and associated gas
- Take-away capacity and gas processing additions continue to come online
- Technology is aiding improved well results with greater use of multi-pad development, extended lateral lengths, lateral spacing, and improved targeting of sweet spots
- Technically recoverable resource estimates continue to grow

Demand

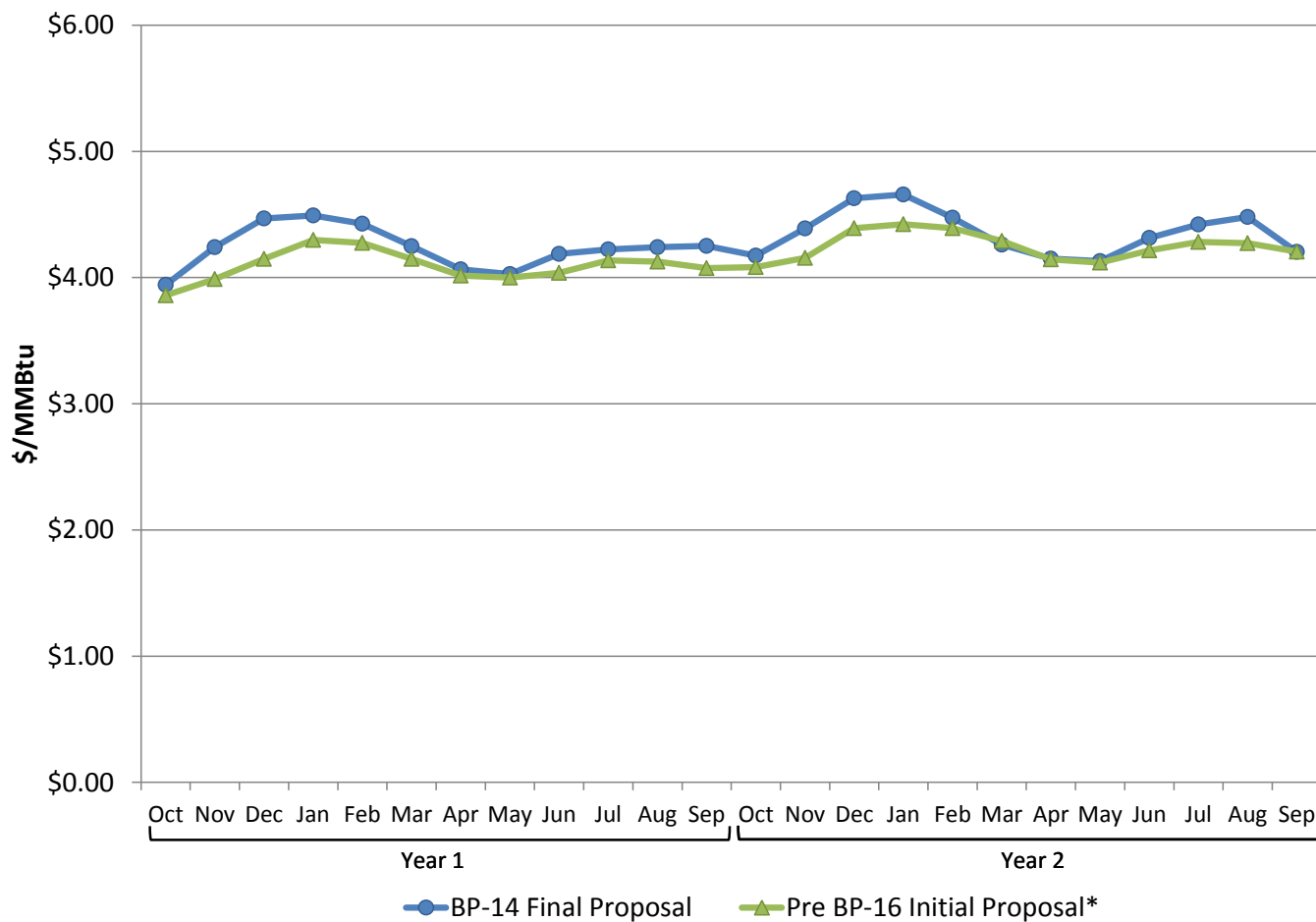
- LNG exports will begin in 2016 while not exceeding 2 Bcf/d until 2018
- Electric generation is expected to increase between 2 and 4 Bcf/d by 2017
- Industrial demand is expected to increase by as much as 2 Bcf/d by 2017
- Exports to Mexico are expected to increase by as much as 1 Bcf/d by 2017

Uncertainties

- Weather-related demand
- Additional regulation and policy impacting production (water, air/flaring, land) or pipeline infrastructure (methane emissions, pipe replacement, permitting)
- Larger than expected impact of emission rules on natural gas-fired generation
- Oil price impact on associated gas production and drilling rig demand
- Volatility of LNG demand

With the exception of strong seasonal demand, low cost production is expected to keep pace with demand growth through the BP-16 time period. In the long term, prices are expected to gradually increase as higher cost resources return to the market to meet demand growth.

Henry Hub Price Outlook

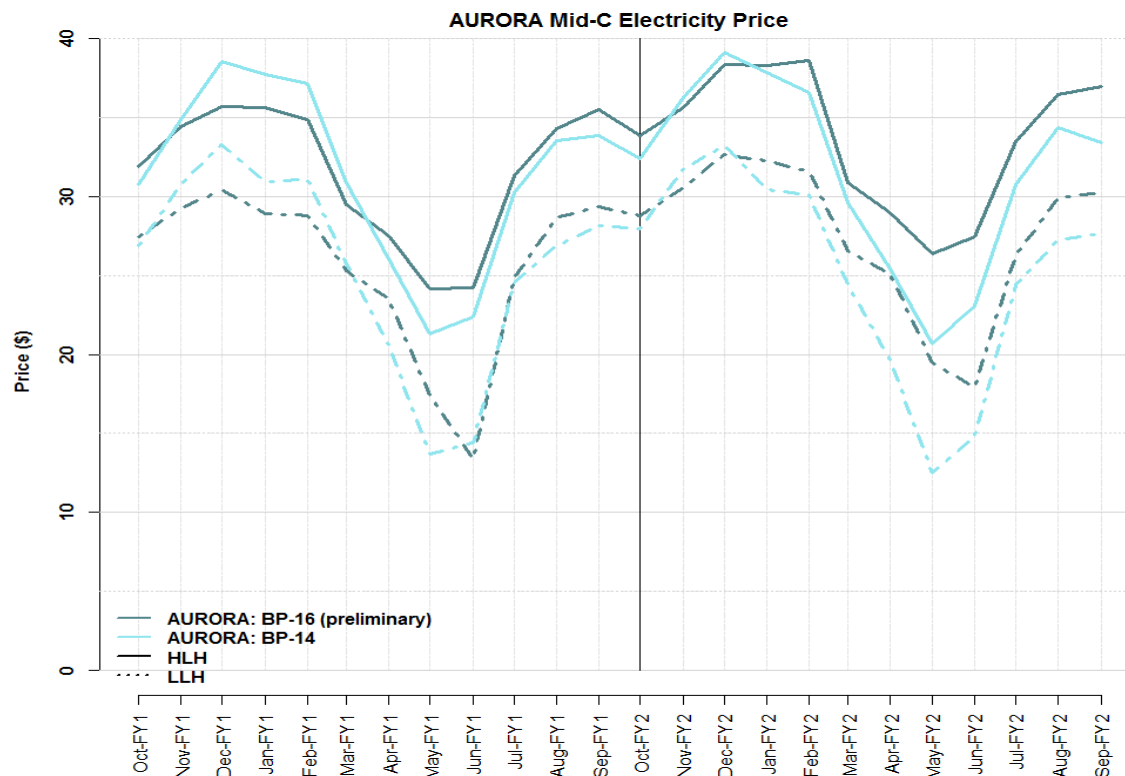


* Henry Hub forecast subject to revision for Initial Proposal

Electricity Market Prices

- Will use AURORA to value secondary market energy
- Model changes
 - New long-term resource build
 - New natural gas forecast
 - Modeling negative Mid-C prices
 - Revenue floor at \$0
 - New wind risk model
 - New transmission risk model
 - Decoupled California and BC hydro risk from PNW water years
 - Changes to hydro shaping constraints
 - Standard version/database upgrades
- Not modeled
 - California carbon

Comparison to BP-14 Prices (nominal)



- Bulk of net secondary revenue during Q2 (Apr – Jun)
- California solar shaving summer peaks
- No *generic* resource additions in PNW during rate period
 - Port Westward/Carty/Tucannon included

GTA Delivery Charge

GTA Delivery Charge Rate

■ Background

- The GTA Delivery Charge, first applied in 2002, is designed to recover costs associated with low-voltage and distribution level transmission facilities that BPA pays to third-party transmission providers for service to BPA customers' low-voltage Points of Delivery.
- The charge applies to all transfer customers that take delivery at less than 34.5 kV unless costs are directly assigned to customers.
- In the WP-02, WP-07, WP-10 and BP-12 rate cases, the GTA Delivery Charge rate was set to mirror BPA Transmission Services' Utility Delivery (UD) Rate.
- In the BP-14 rate case, Power Services established the GTA Delivery Charge rate independent of the Utility Delivery Rate.
 - The rate is based on low-voltage transfer costs.
 - The billing determinant was changed to the customer system peak.

GTA Delivery Charge Rate Calculation

■ Methodology

- No proposed changes from methodology used in the BP-14 rate case.
- **GTA Delivery Charge Revenue Requirement** - The revenue requirement is computed using FY 2013 and FY 2014 (partial) transmission provider invoices for low-voltage distribution, delivery charges, and contract exhibits. These values are then computed to generate an annual average for the two years. The annual average is adjusted by applying an annual 0.82 percent escalation (for load growth) through FY 2016 and FY 2017. The average of the FY 2016 and FY 2017 numbers serves as the numerator in the GTA-14 Delivery Charge rate calculation.
 - Note that NorthWestern Energy does not currently charge BPA a separate low voltage delivery charge, but the cost of low voltage facilities are included in NorthWestern's transmission rates. For purpose of analysis, BPA assumes a low voltage charge equivalent to what other transfer service providers charge.
- **GTA Delivery Charge Billing Determinant** – The FY 2013 and FY 2014 Customer System Peaks are determined by reviewing customer bills and extracting customer load data for the low-voltage PODs at customer system peak. The annual average is then computed for the two year period. The average value is escalated annually by 0.82 percent (for load growth) through FY 2016 and FY 2017. The average of the FY 2016 and FY 2016 numbers serves as the denominator in the GTA Delivery Charge rate calculation.

GTA Delivery Charge Rate Comparison

■ Comparison of preliminary BP-16 rate to BP-14 rate

Comparison	FY14-15	FY16-17	Difference	% Change
Distribution and Low-Voltage Costs Average	\$2,059,505	\$2,175,990	\$116,485	6%
BPA Customer System Peak Average	2,510,867	2,295,820	-215,047	-9%
Proposed Rate	\$0.82	\$0.95	\$0.13	16%

• Factors behind difference:

- Increase in costs
 - IOUs updated GTA rates.
 - Customers under PacifiCorp Westside OATT service saw increased loads.
 - South Idaho load conversion to OATT service in FY 2016.
- Decrease in low-voltage delivery loads
 - Removal of low-voltage POD.
 - Reduction in loads served across some low-voltage PODs.